REMARKS

Please reconsider the present application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering the present application.

I. Disposition of Claims

Claims 1-41 are currently pending in the present application. By way of this reply, claims 1-41 have been amended.

II. Claim Amendments

Claims 1-41 have been amended to correct the form of numbering. No new matter has been added by way of these amendments.

Further, claims 1-15, 26-31, and 37-39 have been amended to refer to a computer system. No new matter has been added by way of these amendments.

III. Objection(s) to the Claims

Claims 1-41 of the present application were objected to as being improperly numbered. Accordingly, by way of this reply, claims 1-41 have been amended to correct the form of numbering. Thus, withdrawal of the objections to the claims is respectfully requested.

IV. Objection(s) to the Specification

The Background of the Specification was objected to as not containing a "Field of

the Invention" section. By way of this reply, the Specification has been amended to include a "Field of the Invention" section. Accordingly, withdrawal of the objection to the Specification is respectfully requested.

V.   Rejection(s) Under 35 U.S.C § 101

Claims 1-15, 26-31, and 37-39 of the present application were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. By way of this reply, claims 1-15, 26-31, 37-39 have been amended to refer to a computer system having instructions for performing the various steps recited in claims 1-15, 26-31, and 37-39. Thus, amended claims 1-15, 26-31, and 37-39 are now directed to statutory subject matter. Accordingly, withdrawal of the § 101 rejections is respectfully requested.

VI.   Rejection(s) Under 35 U.S.C § 102

Claims 1-13, 16-18, 21-29, 32-34, and 37-41 of the present application were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,128,769 issued to Carlson et al. (hereinafter "Carlson"). For the reasons set forth below, this rejection is respectfully traversed.

The present invention is directed to a technique finding a worst case aggressor set from sets of logically exclusive aggressors for noise analysis on a victim net. *See* Specification, paragraph [0019]. Embodiments of the present invention are based on the idea that for nets in a logically exclusive set, at most only one net can switch states in one direction at a given time. During noise analysis of a "quiet" victim net, if the victim net is capacitively coupled to one or more aggressor nets that are part of a logically exclusive

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aggressor set, then only one of those aggressor nets can switch at a given time. The coupling capacitances between the victim net and other aggressor nets are considered to be ground capacitances of the victim net because these other aggressor nets are not switching due to the logical exclusivity of the aggressor nets in the aggressor set. Because a processor typically has multiple logically exclusive sets of nets, it becomes necessary to be able to determine worst case aggressors from multiple logically exclusive sets of nets. Hence, embodiments of the present invention provide a technique by which to remove from consideration all but the worst case aggressor nets of a particular victim net, where the worst case aggressor nets represent the worst potential case of noise injection on the victim net. *See* Specification, paragraph [0020].

Accordingly, amended independent claims 1, 16, 26, 32, 37, and 40 each require, in part, at least one logically exclusive set. Applicant notes that a logically exclusive set is defined as a set of aggressor nets coupled to a victim net in which only one of the aggressor nets can switch at a given time. *See* Specification, paragraph [0020].

Carlson, in contrast to the present invention fails at least to disclose the limitations of the claimed invention discussed above. In fact, Carlson is altogether silent as performing noise analysis on a victim net based on a "logically exclusive set" of aggressor nets.

The portions of Carlson that are cited in the present Office Action as disclosing a "logically exclusive set" refer to logic filtering. In Carlson, such logic filtering is used to identify signals that cause timing problems. *See* Carlson, column 4 – 8. Carlson discloses that "[l]ogic filtering is performed to eliminate potential attacker signals that have no logic relationship with the victim signals or group attacker signals together that

have a logic relationship." *See* Carlson, column 7, lines 55 – 58. Thus, in Carlson, logic filtering removes aggressor nets that have no logical relationship to a victim net. This is entirely distinct from a logically exclusive set, in which all the aggressor nets in the logically exclusive set do have a relationship with a victim net (although only one of the aggressor nets can switch at any given time).

With respect to Carlson's disclosure of grouping attacker signals together that have a logic relationship, Carlson, with reference to Figure 1 of Carlson, discloses:

> Furthermore, applying logic filtering can divide groups of attacker signal lines into different subsets. The subset of attacker signal lines that yields the highest Delta C Value is chosen as the worst case Delta C Value. In the case where the attacker signals switch near the latest time the victim signal switches (as described at block **120**), the worst case positive Delta C value is determined along with the maximum push-out due to the worst case Delta C, as described at block **160**.

See Carlson, column 6, lines 55 – 63. Thus, although Carlson discloses grouping aggressor nets, Carlson is silent as to grouping aggressor nets into sets of aggressor nets that are "logically exclusive," *i.e.*, sets in which only one aggressor net switches at a given time.

Accordingly, Carlson fails to disclose or otherwise teach the "logically exclusive set(s)" limitations of amended independent claims 1, 16, 26, 32, 37, and 40 of the present application.

In view of the above, Carlson fails to show or suggest the present invention as recited in amended independent claims 1, 16, 26, 32, 37, and 40 of the present application. Thus, amended independent claims 1, 16, 26, 32, 37, and 40 of the present application are patentable over Carlson. Dependent claims are allowable for at least the

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same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

VII. Rejection(s) Under 35 U.S.C § 103

Claims 14, 15, 19, 20, 30, 31, 35, and 36 of the present application were rejected under 35 U.S.C. § 103(a) as being unpatentable over Carlson. For the reasons set forth below, this rejection is respectfully traversed.
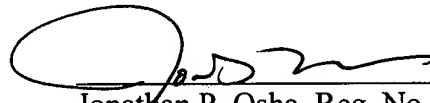
As discussed above, Carlson fails to disclose all the limitations of amended independent claims 1, 16, 26, and 32 of the present application. Thus, dependent claims 14, 15, 19, 20, 30, 31, 35, and 36 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

VIII. Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places the present application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226.110001;P6194).

Respectfully submitted,

Date: _____

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